

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Louis B. Rosenberg
Application No. : 09/823,943
For : **Haptic Remote Control for Toys**
Filed : March 30, 2001
Examiner : Urszula M. Cegielnik
Art Unit : 3711

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This is an Appeal Brief filed under 37 C.F.R. § 41.37 in connection with the final rejection of claims 45-58 in the Final Office Action mailed January 11, 2008. Each of the topics required by 37 C.F.R. § 41.37 is presented herewith and labeled appropriately.

Real Party in Interest

The real party in interest in the present application is the assignee, Immersion Corporation, 801 Fox Lane, San Jose, California 95131 (hereinafter “Appellant”).

Related Appeals and Interferences

Applicant knows of no other appeals or interferences related to the present application.

Status of Claims

Claims 45-58 stand finally rejected and are the substance of this appeal. Applicant cancelled claims 1-44 during the prosecution of this application. The final rejection of claims 45-58 (shown in attached Appendix A) is appealed.

Status of Amendments

Applicant did not seek to amend the application after final rejection.

Summary of the Claimed Subject Matter

Claim 45 is the sole pending independent claim.

Claim 45 recites a device that is generally useful for controlling a remote-controlled device, and providing haptic feedback to the user associated with a state, or the status, of the remotely-controlled device. *See* Specification, Paragraph 8. For example, in one embodiment, the claimed device may be a remote control that can generate a haptic effect when a remotely-controlled vehicle, such as a remote-controlled car, strikes an object. *See* Specification Paragraph 6. In such an embodiment, other status information may be detected by the remotely-controlled device and sent to the remote control, including a degree of contact, an amount of acceleration experienced by the remotely-controlled device, a tight turn, an amount of braking, or other states of the remotely-controlled device. *See* Specification, Paragraphs 6, 42, and 43. Such a remote control may provide a user with a richer experience for a user controlling a remotely-controlled device.

Claim 45 first recites “a housing” and “a manipulandum disposed within the housing, and operable to cause a control signal to be sent to a remotely-controlled device.” For example, the manipulandum may be a joystick or lever, or another input device, such as buttons, steering wheels, knobs, dials, trackballs, and other types of manipulanda. *See* Specification, Paragraph 18. The manipulandum may be employed to control a remotely-controlled device, such as a remote-control car. *See* Specification, Paragraphs 18, 21.

The device of claim 45 further comprises “an actuator coupled to said housing, said actuator operable to output a haptic sensation to at least one of said housing or said manipulandum.” The actuator may be one of many different kinds of actuators, including

without limitation eccentric rotating masses, linear voice coil actuators, or solenoids. *See* Specification, Paragraphs 37, 38. The actuator generates haptic effects based on a received actuator signal.

Claim 45 further recites “a receiver disposed within said housing and operable to receive a sensor signal from a sensor configured to sense a state of said remotely-controlled device.” The receiver allows the remote control device to receive status information from the remotely-controlled toy. The remote control device may then generate haptic effects based on the status information. For example, one or more sensors may be mounted on a remotely-controlled toy, such as a remote-controlled car. In such an embodiment, a sensor may be mounted on the front bumper of the car, which may cause a signal to be transmitted to the remote control when the car collides with an object. The signal may be received by the receiver and then sent to a processor. *See* Specification, Paragraphs 47-51.

Claim 45 finally recites “a processor disposed within said housing in communication with said actuator and said receiver, said processor operable to generate an actuator signal associated with said state of said remotely-controlled device, said actuator signal operable to cause said actuator to output said haptic sensation.” The processor may receive the signal from the receiver and generate an actuator signal, based on the signal, configured to cause the actuator to output a haptic effect. For example, the processor may generate an actuator signal that may cause the actuator to shake the remote control to indicate a collision. *See* Specification, Paragraphs 47-75.

The above description of the claimed subject matter is intended to provide the reader with an overview of embodiments of the present invention, but is not intended to in any way limit the scope of the claimed invention.

Grounds of Rejection to be Reviewed on Appeal

The Examiner rejected claims 45-50 and 55-57 under 35 U.S.C. § 103(a) as being unpatentable over European Patent Publication No. 0977142 to Koninklijke Philips Electronics N.V. (“Philips”) in view of U.S. Patent No. 6,121,955 to Liu (“Liu”). The Examiner rejected claims 51-54, 57, and 58 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu and further in view of U.S. Patent No. 4,964,837 to Collier (“Collier”). The issues presented for consideration in this appeal are as follows:

1. Whether the Examiner erred in rejecting claims 45-50 and 55-57 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu.
2. Whether the Examiner erred in rejecting claims 51-54, 57, and 58 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu and further in view of Collier.

Argument

Issue 1: Whether the Examiner erred in rejecting claims 45-50 and 55-57 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu.

Applicant respectfully traverses the rejection of claims 45-50 and 55-57 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu.

To sustain a rejection of a claim under 35 U.S.C. § 103(a), the cited references must teach or suggest each and every element of the claimed invention. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Prosecution in the present case was re-opened following the filing of an Appeal Brief by Applicant. In the first Office Action following re-opened prosecution, the Examiner rejected the pending claims under the same primary reference, Philips, but in view of a new secondary reference, Liu. In making the new rejection, the Examiner has abandoned her view that Philips “does not disclose a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device,”¹ and now asserts that Philips does, in fact, disclose such a receiver. However, the combination of references does not teach or suggest “a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device” as recited in independent claim 45. As such, claim 45 is patentable over Philips in view of Liu.

Philips teaches an input device, such as a mouse, capable of generating tactile clues, and describes actuators to generate haptic effects, and some kinds of haptic effects. As noted in the response to the previous Office Action, the only mention of “receiving” within the cited portion of Philips is the “reception of the control signal by the input device.” The specification describes the control signal as being a command to output a haptic effect, not a sensor signal indicating the state of a remotely-controlled device. *See* for example, Philips, col. 3, lines 45-53. There is no

¹ *See* Non-Final Office Action mailed April 20, 2006, p. 2; Final Office Action mailed October 20, 2006, p. 2.

teaching or suggestion within Philips of a remotely-controlled device, or of a sensor configured to sense a state of the remotely-controlled device.

In response to Applicant's arguments, the Examiner argues that "EP '142 [Philips] further discusses at col. 5, lines 14-26, wireless keyboard which inherently have [sic] some kind of receiver within the housing in order to communicate wirelessly."² Applicant disputes that a wireless keyboard must inherently include a receiver; however, even if a receiver of "some kind" is inherently included in Philips, a receiver of "some kind" does not teach or suggest "a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device" as recited in claim 45. The examiner had previously recognized this, stating that "EP '142 [Philips] does not disclose a receiver disposed within the housing and operable to receive a sensor signal configured to sense a state of the remotely controlled device."

Further, Liu does not teach or suggest "a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device." Liu teaches a joystick with optical sensors. Liu does not include any disclosure of a remotely-controlled device or of sensors within such a device, or of receiving sensor signals from such a device. Thus, because neither of the two reference individually includes any teaching or suggestion of "a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device," their combination does not either. As such, claim 45 is patentable over Philips in view of Liu.

Applicant respectfully requests the Board reverse the Examiner's rejection of claim 45. Because claims 46-50 and 55-57 each depend from and further limit claim 45, claims 46-50 and 55-57 are each patentable over Philips in view of Liu for at least the same reasons. Applicant respectfully requests the Board reverse the Examiner's rejection of claims 46-50 and 55-57.

² See Final Office Action mailed January 11, 2008, p. 4.

Issue 2: Whether the Examiner erred in rejecting claims 51-54, 57, and 58 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu and further in view of Collier.

Applicant respectfully traverses the rejection of claims 45-50 and 55-57 under 35 U.S.C. § 103(a) as being unpatentable over Philips in view of Liu and further in view of Collier.

As noted above, to sustain a rejection of a claim under 35 U.S.C. § 103(a), a reference must teach or suggest each and every element of the claimed invention. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

As discussed above, Philips in view Liu does not teach or suggest “a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device” as recited in claim 45, from which claims 51-54, 57, and 58 depend. Collier does not cure this deficiency.

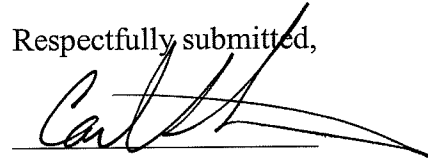
Collier teaches a remote controlled car with an integrated speaker, where the car generates sound effects corresponding to events, such as screeching tires or collisions. However, Collier does not include any teaching of transmitting information from the remote-controlled car – the sound generation system, including the speaker, is contained within the car. Thus, like Philips and Liu, Collier does not teach or suggest “a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device.” As such, one of ordinary skill in the art would not find “a receiver disposed within the housing and operable to receive a sensor signal from a sensor configured to sense a state of the remotely controlled device,” taught or suggested by Philips in view of Liu and further in view of Collier. Thus, claims 51-54, 57, and 58 are each patentable over the combined references for at least these reasons.

Applicant respectfully requests the Board reverse the Examiner’s rejection of claims 51-54, 57, and 58.

Date: 5/12/2008

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Carl Sanders', written over a horizontal line.

Carl Sanders
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Appendix A – Claims

45. A device comprising:
a housing;
a manipulandum disposed within said housing and operable to cause a control signal to be sent to a remotely-controlled device;
an actuator coupled to said housing, said actuator operable to output a haptic sensation to at least one of said housing or said manipulandum;
a receiver disposed within said housing and operable to receive a sensor signal from a sensor configured to sense a state of said remotely-controlled device; and
a processor disposed within said housing in communication with said actuator and said receiver, said processor operable to generate an actuator signal associated with said state of said remotely-controlled device, said actuator signal operable to cause said actuator to output said haptic sensation.
46. A device as recited in claim 45, wherein said actuator comprises an inertial mass actuator.
47. A device as recited in claim 45, wherein said manipulandum includes a lever movable along an axis.
48. A device as recited in claim 45, wherein said control signals comprises a wireless control signal.
49. A device as recited in claim 48, wherein said wireless control signals comprises a radio frequency (RF) signal.
50. A device as received in claim 45, wherein said sensor signal from said remotely-controlled device is associated with one of: a movement of said remotely-controlled device and a contact between said remotely-controlled device and a physical object.
51. A device as recited in claim 45, wherein said remotely-controlled device comprises:

a transmitter in communication with said sensor.

- 52. A device as recited in claim 51, wherein said sensor comprises a contact sensor.
- 53. A device as recited in claim 51, wherein said sensor comprises a pressure sensor.
- 54. A device as recited in claim 51, wherein said sensor comprises an accelerometer.
- 55. A device as recited in claim 45, wherein said manipulandum comprises a throttle control.
- 56. A device as recited in claim 45, wherein said manipulandum comprises a directional control.
- 57. A device as recited in claim 45, wherein said remotely-controlled device comprises a remotely-controlled toy.
- 58. A device as recited in claim 45, wherein said remotely-controlled device comprises a remotely-controlled car.

Appendix B – Evidence

None.

Appendix C – Related Proceedings

None.